

WHAT IS CLAIMED IS:

1. A method for detecting an object image within image data comprising:
 - receiving image data;
 - segmenting the image data into multiple windows;
 - determining a likelihood that each window contains the object, and probability rank ordering the multiple windows based on the step of determining; and
 - selecting a predetermined one of the multiple windows as a window wherein the object image is considered to reside.

2. The method of claim 1 wherein the receiving step comprises:
 - collecting and recording the image data as the data emanates back to a receiver.

3. The process of claim 1, wherein the step of segmenting comprises:
 - determining a set of image metric data;
 - applying selection criteria to filter false detections and clutter from the image data;
 - comparing image data, after applying the selection criteria, with the image metric data; and
 - applying morphological operators on the image data.

4. The process of claim 1, comprising:
 - displaying at least one of the multiple windows.

5. The process of claim 2, comprising:

identifying pixels having a lighter contrast compared to other pixels in the imagery.

6. The process of claim 2, comprising:

identifying pixels having a darker contrast compared to other pixels in the imagery.

7. The process of claim 2, comprising:

identifying pixels having both lighter and darker contrast compared to other pixels in the imagery.

8. The process of claim 2, comprising:

using a morphological operator to isolate targets from their background.

9. The process of claim 2, comprising:

filtering the image data using two concatenated morphological filters.

10. The process of claim 2, comprising:

detecting spatial discontinuities at a pixel level.

11. The process of claim 2, comprising:

presenting the image data of multiple windows on a display in a mosaic format.

12. The process of claim 2, comprising:
communicating the detected window images to another system.

13. The process of claim 2, comprising:
the processing of image data comprising visual data.

14. The process of claim 2, comprising:
the processing of image data comprising thermal data.

15. The process of claim 2, comprising:
the processing of image data comprising synthetic aperture radar (SAR) data.

16. A target detection process comprising:
acquiring image data;
down-sampling the image data n-times;
processing the down-sampled image data for detecting at least one of a light target
and a dark target;
labeling subsets of the image data that may contain target data and rejecting clutter
associated with these subsets of the image data;
combining results of the image data that has been down-sampled; and
forwarding combined results to a decision making authority.

17. The process of claim 15, comprising:

a decision making authority that extracts windows and rank orders them.

18. The process of claim 15, comprising:

an image that is down-sampled n-times using a series of low pass filters that can filter in a horizontal and vertical direction.

19. The process of claim 15, comprising:

an image that has been down-sampled n-times, where n comprises a large number that can still accomplish target detection after accomplishing a larger amount of down-sampling.

20. The process of claim 15, comprising:

a filtering process performed by a six by six (6x6) convolution filter.

21. The process of claim 15, comprising:

a filtering process performed by an N by N convolution filter, where N is a number greater than or equal to one.